UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,031	03/15/2004	Tara Lynn Bielski	1592-473	6868

6449 7590 12/18/2008

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER	
MAHYERA, TRISTAN J	

ART UNIT	PAPER NUMBER
1615	

NOTIFICATION DATE	DELIVERY MODE
12/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/800,031	BIELSKI ET AL.	
	Examiner	Art Unit	
	TRISTAN J. MAHYERA	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) *61-65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60 and 66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-66 are pending. Claims 1-60 and 66 are examined on the merits.

Specification

The objection to the disclosure for the use of trademarks is hereby **withdrawn**.

Response to Declaration and Arguments

A Rule 131 declaration was received on 6/19/2008 with the signatures of both inventors. Supporting facts and remarks were received on 6/9/2008.

This affidavit fails to recite sufficient facts for the Examiner to determine diligence. The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the SHAMAR reference to either a constructive reduction to practice or an actual reduction to practice. Diligence is the reasonable effort to reduce the invention to practice or to file a US application for it. While specific dates may be redacted on a 131, actual dates and/or time periods of act acts relied on to establish diligence must be provided. Applicant does not provide any supporting evidence that proves diligence existed before the effective date of SHAMAR to the effective filing date of the instant application. There are no dates alleged anywhere in the exhibit or declaration other than stating the handwritten entries were prepared and/or approved prior to August 25, 2003. Again, this provides no proof for diligence

through to the filing date of the instant application. It is noted that applicant may want to rely on attorney diligence for some portion of this period, but no information is given regarding attorney diligence.

Therefore the entire period is not accounted for and it is not clear whether all the activities referred to can be used to support the necessary diligence.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, SHAMAR teaches it is within the skill of the art to use pharmaceutically acceptable excipients to improve the capsule or table characteristics and PATEL teaches it is within the skill of the art to use alginic acid as a pharmaceutically acceptable excipient to improve the capsule or table characteristics. Since SHAMAR uses the salt of alginic acid there is a strong motivation to use alginic acid for the same purpose as sodium alginate. Because both alginic acid and sodium alginate are alginates, one of ordinary skill in the art would have been motivated to add alginic acid and/or sodium alginate to the instant composition. There is a reasonable expectation that the addition of either of the alginates to the instant product would provide an effective carrier. As such, it would

have been obvious to one of ordinary skill in the art at the time the invention was made to add alginic acid and/or sodium alginate to the instant composition.

In response to applicant's argument that PATEL does not explicitly state alginic acid for use as a sustained release polymer, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). The use of alginic acid as a sustained release carrier, however, is strongly implied from both the use of other alginates, such as sodium alginate in SHAMAR for sustained release forms and because PATEL is also directed to the creation of dosage form having a sustained release.

Claim Rejections - 35 USC § 103

The statement of USC 103 can be found in a prior office action.

Claims 1-49 and 66 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over SHAMAR et al. (US 2006/0002997, see PTO-892) in view of PATEL et al. (US 4,772,473, see PTO-1449).

SHAMAR teaches a controlled release dosage form that includes a sustained release portion and an immediate release portion wherein the sustained release portion includes nitrofurantoin monohydrate and the immediate release portion includes macrocrystalline nitrofurantoin. See e.g. paragraphs [0004], [0016] and [0025]. The

sustained release portion is in the form of a powder, granule, compact or tablet and the immediate release portion is in the form of a powder or granule. See e.g. paragraph [0009]. The sustained release polymers provide a therapeutically acceptable level of nitrofurantoin for more than twelve hours, while the immediate release portion allows for rapid absorption to quickly achieve therapeutic plasma levels. See e.g. paragraph [0021]. The sustained release and immediate portions contain pharmaceutically acceptable excipients such as diluents, binders, lubricants and colors. See e.g. [0028] and [0030]. The dosage form may be in tablet or capsule form. See e.g. [0031]. The portions are preferably separate layers, however the portions can be varied and mixed. See e.g. [0033] lines 6-9. Suitable excipients in either the immediate or sustained layer includes hydroxypropyl methylcellulose, sodium alginate, dibasic calcium phosphate, microcrystalline cellulose, lactose, starch, magnesium stearate and colors. See e.g. paragraph [0029]. The tablet is encapsulated within a single capsule or the tablet and powders or granules are encompassed in a capsule. See e.g. paragraph [0044]. The immediate release and sustained release portion are independently mixed or formed and need not be combined into a capsule. See e.g. [0014] and [0015]. The formulation is optionally coated. See e.g. [0029] last sentence. Example 2 teaches the use of 75mg of nitrofurantoin monohydrate and 25mg of macrocrystalline nitrofurantoin per capsule representing about 10% and about 70% of each portion respectively. See e.g. [0045]. Example 2 further teaches magnesium stearate is about 0.01% and lactose and starch are about 45% of the portion whereas hypromellose is about 7%. SHAMAR additionally teaches the use of hypromellose from between about 0.01% to about 15%.

See e.g. [0024]. The ratio of the immediate release portion to the sustained release portion is about 1:2.7. See e.g. Examples 1 & 2.

SHAMAR does not explicitly teach the use of alginic acid or the percentage of each compound in the components.

PATEL teaches a combination sustained release/rapid release pharmaceutical capsules for oral administration of nitrofurantoin containing separate layers of a particulate mixture and a second particulate mixture are contained in a capsule shell. See e.g. column 3 lines 40-45. Other pharmaceutical carriers may be added to provide capsules having the desired characteristics. See e.g. column 8 lines 48-50. Alginic acid is taught as a pharmaceutical carrier. See e.g. column 9 line 3.

Claims 50-60 **remain** rejected under 35 U.S.C. 103(a) as being unpatentable over SHAMAR.

SHAMAR teaches the step of admixing nitrofurantoin monohydrate with sustained release polymers and pharmaceutically acceptable excipients. See e.g. paragraph [0033]. SHAMAR further teaches the step of admixing macrocrystalline nitrofurantoin with pharmaceutically acceptable excipients and filling into a capsule. See e.g. paragraph [0032].

The percentage by weight of each compound/excipient in the first or second component of the formulation is obvious to one of ordinary skill in the art at the time of the instant invention because PATEL states that pharmaceutical carriers may be added to provide capsules having the desired characteristics. See e.g. column 8 lines 48-50.

Furthermore, adjusting the percent of a compound in the formulation is simple optimization and known to a skilled pharmacologist. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

It would have been obvious to one of ordinary skill in the art at the time of the invention to practice a controlled release dosage form that includes a sustained release portion and an immediate release portion wherein the sustained release portion includes nitrofurantoin monohydrate and the immediate release portion includes macrocrystalline nitrofurantoin because SHAMAR teaches it is within the skill of the art to use pharmaceutically acceptable excipients to improve the capsule or table characteristics and because PATEL teaches it is within the skill of the art to use alginic acid as a pharmaceutically acceptable excipient to improve the capsule or table characteristics. One would have been motivated to do so in order to receive the

expected benefit, as suggested by SHAMAR and actually exemplified by PATEL. Absent any evidence to the contrary, and based upon the teachings of the prior art, there would have been a reasonable expectation of success in practicing the instantly claimed invention.

Conclusion

No Claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRISTAN J. MAHYERA whose telephone number is 571-270-1562. The examiner can normally be reached on Monday through Friday 9am-7pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL P. WOODWARD can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tristan J Mahyera/
Examiner, Art Unit 1615

/MP WOODWARD/
Supervisory Patent Examiner, Art Unit 1615